

REMARKS

The present Amendment amends claims 7, 11 and 13, adds new claims 14-16 and cancels claims 2-6, 9, 10 and 12. Therefore, the present application has pending claims 7, 11 and 13-16.

Claims 2-6 stand rejected under 35 USC §103(a) as being unpatentable over Avidor (U.S. Patent No. 6,144,652) in view of Locklear (U.S. Patent No. 6,483,870); claims 7-9 stand rejected under 35 USC §103(a) as being unpatentable over Avidor in view of Locklear and further in view of Yafuso (U.S. Patent No. 6,108,536); claims 10 and 12 stand rejected under 35 USC §103(a) as being unpatentable over Yafuso; and claims 11 and 13 stand rejected under 35 USC §103(a) as being unpatentable over Yafuso in view of Locklear. As indicated above, claims 2-6, 8-10 and 12 were canceled. Therefore, these rejections particularly, the 35 USC §103(a) rejection of claims 2-6 as being unpatentable over Avidor in view of Locklear, the 35 USC §103(a) rejection of claims 8 and 9 as being unpatentable over Avidor in view of Locklear and further in view of Yafuso, and the 35 USC §103(a) rejection of claims 10 and 12 as being unpatentable over Yafuso are rendered moot. Accordingly, reconsideration and withdrawal of these rejections is respectfully requested.

With respect to the remaining claims 7, 11 and 13, Applicants submit that the features of the present invention as now more clearly recited in these claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claim 7 as being unpatentable over Avidor in view of Locklear and further in view of Yafuso, and the 35 USC §103(a) rejection of claims

11 and 13 as being unpatentable over Yafuso in view of Locklear is respectfully requested.

Amendments were made to each of claims 7, 11 and 13 so as to more clearly describe features of the present invention not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, claim 7 was amended to more clearly recite features of the present invention as described, for example, on page 20, lines 14-19 of the present application.

As now more clearly recited in the claims, the present invention is directed to a control method of assigning a channel to a plurality of modem processing means of a base station so as to demodulate a base band received signal and modulate a transmit data signal. According to the present invention, each modem processing means operates in a time multiplexing manner. The control method includes converting a plurality of carrier frequency band signals received by a plurality of antennas provided in a RF base station to a plurality of base band received signals in a RF unit, storing a plurality of the base band received signals in a buffer memory and assigning a respective channel to a respective modem processing means for demodulating the base band received signals and for modulating the transmit data signals. An assigning step includes enabling a controller to check the loads of a plurality of modem processing units and assigning a channel to a modem processing means still having a minimum level of load margins if there are a plurality of the modem processing means still having a load margin respectively.

Unique according to the present invention is that the channel assignment to the plurality of modem processing means is in a hand-over processing executed by a mobile station moving from a first sector controlled by the RF base station to a second sector so that a second channel for demodulating a second signal received by a second antenna of the RF base station and a first channel for demodulating the first signal received by a first antenna are assigned a same modem processing means. Thus, according to the present invention, the first signal is transmitted from the RF mobile station and forms a first sector and the second signal is transmitted from the RF mobile station and forms a second sector. Further, according to the present invention the modem processing means of the RF base station combines the first signal received by the first antenna and the second signal received by the second antenna so as to output a combined signal.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by Avidor, Locklear or Yafuso whether taken individually or in combination with each other as suggested by the Examiner.

In the March 17, 2004 Amendment, responding to the previous Office Action, numerous arguments were presented distinguishing the features of the present invention as recited in the then pending claims from the references of record. These

arguments apply as well to the current claims as amended and therefore said arguments are incorporated herein by reference.

Further, to said arguments, the following is provided.

Avidor teaches a system for converting a plurality of carrier frequency band signals by a plurality of antennas provided in an RF base station to a plurality of base band received signals in an RF unit. In Avidor, the receiving system contains a buffer so as to temporarily store received signals as the modem components are operating so as to demodulate the received signals. Further, Avidor teaches that the channel are assigned to the modem component and each modem components performs a check so as to determined an idle time slot in the channel wherein a transmission is conducted if the idle time slot is found.

The above described teachings of Avidor are not in anyway related to the features of the present invention as recited in the claims. The present invention is directed to balancing the load of various modem processing means by checking the respective loads and assigning a channel to the modem processing means if the modem processing means has a minimum level of load margin. Such features are clearly not taught or suggested by Avidor.

The above described deficiencies of Avidor are not supplied by any of other references of record particularly Yafuso and Locklear.

Yafuso merely describes that a performance test of a base station is conducted so as to setup the antennas thereof. It is the intent of Yafuso to properly balance the various antennas used by the base station. As taught in Yafuso, one processor is used for signals received from a transmitter by different antenna sectors

so that their peak failures can be compared. The Examiner's attention is directed to col. 4, line 17 through col. 5, line 8 of Yafuso.

The present invention as recited in the claims differs substantially from that taught by Yafuso being that according to the present invention a method for controlling the modem processing means in a hand-over between sectors of a base station is provided. Such a method which operates in the hand-over between sectors of a base station is not taught or suggested by Yafuso. Further according to the present invention, a determination as to how to assign channels of signals transmitted from RF mobile station and received at the RF base station according to the loads of the modem processing means. Such features of the present invention are clearly not taught or suggested by Yafuso.

Thus, as is clear from the above, Yafuso suffers from many of the same deficiencies relative to the features of the present invention as Avidor.

The above described deficiencies of Avidor and Yafuso are also evident in Locklear.

Locklear is merely relied upon by the Examiner for an alleged teaching of a modem pool system wherein a controller maintains loading information and threshold information in a database and compares the loading information to threshold information to determine which modem is to be activated or inactivated.

This teaching of Locklear is not anyway related to the features of the present invention as recited in the claims. Particularly, this teaching of Locklear is not conducted during the hand-over process of hand-over communication from one sector to another sector of a base station as in the present invention. In fact,

Locklear is not even directed to wireless communications to which the present invention is intended. Locklear appears to be directed to wire line type communications.

Thus, Locklear suffers from the same deficiencies relative to the features of the present invention as recited in the claims as Avidor and Yafuso. Therefore, combining the teachings of Avidor, Yafuso and Locklear in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejections of claims 7, 11 and 13 based on the combinations of Avidor, Yafuso and Locklear is respectfully requested.

The present Amendment adds new claims 14-16. New claim 14 is directed to an assignment of the first and second channels as illustrated in Fig. 17, particularly steps 1702, 1703 and 1707 of the present application. New claim 15 is directed to the assignment of the first and second channels as disclosed on page 22, line 12 through page 23, line 5. New claim 16 is directed to the assignment of the first and second channels as described on page 21, line 16 through page 22, line 11 of the present application.

New claims 14-16 recite many of the same features shown above not to be taught or suggested by any of the references of record particularly Avidor, Yafuso and Locklear. Therefore, the same arguments presented above with respect to claims 7, 11 and 13 apply as well to the possible use of Avidor, Yafuso and Locklear to reject claims 14-16.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 2-13.

In view of the foregoing amendments and remarks, Applicants submit that claims 7, 11 and 13-16 are in condition for allowance. Accordingly, early allowance of claims 7, 11 and 13-16 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (501.38452X00).

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Carl I. Brundidge
Registration No. 29,621

CIB/jdc
(703) 312-6600